

DETAILED ACTION

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because the used of legal phraseology appear in the abstract. Correction is required. See MPEP § 608.01(b).

Claim Objections

Claim 6 is objected to because of the following informalities: There is no prior recitation for the claimed limitation "the measured message transmission time". Appropriate correction is required. It appears that claim 6 is meant to depend upon claim 5 because claim 5 recites "transmission time of the message is measured", and for examination purposes and to maintain consistency will be treated thus.

Claim 9 is objected to because of the following informalities: There is no prior recitation for the claimed limitation "the screen of the mobile telephone". Appropriate correction is required. It appears that Applicant is attempting to claim "a screen of the mobile telephone" and for examinations purposes will be treated thus. Applicant is suggested to amend the claim in a manner consistent with Applicant's specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scahill et al. (US 2004/0117804 A1, hereinafter Scahill).

Regarding claims 1, 11 and 15, Scahill discloses a method, a mobile phone and a system of accessing a service via a mobile telephone network in which instructions are input by means of mobile telephone (Abstract, paragraphs 68-72, where Scahill discusses inputting instructions at the mobile) and the instructions are transmitted over a data channel of the mobile telephone network to a server (paragraphs 68 and 77, where Scahill discusses mobile phone communicating with gateway and server via data link). Scahill discloses voice recognition means being suitable for interpreting the instructions (paragraphs 72 and 77, where Scahill discusses voice XML). Scahill discloses the server being suitable for performing a task as a function of such interpretation (paragraph 76). Scahill discloses a parameter relating to the quality of transmission

over the data channel of the network is measured (paragraphs 254-260). Scahill discloses if the quality parameter is above a certain threshold, the telephone is put into a mode of operation in which it is capable of taking account of instructions in voice form and of converting them into data for transmission to the server (paragraphs 254-260). Scahill discloses in the event of the quality being below the threshold, the telephone disable audio input (paragraphs 254-260), but does not explicitly disclose putting the telephone into graphic mode operation. However, Scahill further discloses it is beneficial to allow user to select an appropriate input modality (paragraph 113) and to be able to switch between dialogs when certain conditions occur (paragraph 195). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify Scahill to allow the telephone with multimodal user interface to switch to a graphic modal when voice modal is unavailable due to low signal quality in order to allow user to continue interaction with the telephone and the server without any disruption due to the bad signal quality. Note that the claimed limitation "as a function of said parameter the mobile telephone is suitable for switching between one and the other of the modes of operation defined in claim 1" in claim 11 and "the telephone is suitable for passing between one and the other of the modes of operation defined in claim 1" in claim 15 has not been given any patentable weight, since the claims are to an apparatus and no structure is recited for achieving such suitability.

Claims 2-4, 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scahill in view of Gray et al. (US 2003/0092394 A1, hereinafter Gray).

Regarding claims 2-4, 12 and 16, Scahill discloses the limitations of claim 1 as applied above. Scahill further discloses determining signal quality and error rate to determine a modal (paragraphs 254-260), but does not disclose comparing a test message with a reference message.

In an analogous art, Gray discloses comparing a test signal with a reference signal to test a degree of degradation on a communication link (Abstract, paragraph 40). It would have been obvious to one having ordinary skill in the art at the time of the invention to use the signal quality measuring method as disclosed by Gray in the multimodal switching method as disclosed by Scahill so that when the measurement result of the test signal determine that there is a degradation to the data link and error rate is higher than a threshold value, user can be provided with an alternate modal interface.

Claims 5, 6, 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scahill in view of DeJaco et al. (US 5,784,406, hereinafter DeJaco).

Regarding claims 5, 6, 13 and 17, Scahill discloses the limitations of claims 1, 11 and 15 as applied above. Scahill is silent on determining communication link quality based on transmission time. In an analogous art, DeJaco discloses a method and an apparatus for determining communication link quality by measuring round trip delay of a signal (col. 6, lines 40-60). DeJaco discloses such link testing is conducted simply as another call and requires no modifications or special test configurations of any equipment in the communication link being tested (col. 4, lines 21-28). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the communication link testing for the multimodal interface system and method of using as disclosed by Scahill with the communication link testing method as disclosed by DeJaco so that communication link testing does not require any modification and special configuration and therefore reduce the cost of additional hardware or software.

Regarding claims 9, 10 and 14, Scahill discloses the limitations of claims 1 and 11 as applied above. Scahill discloses a mobile terminal and determining a communication link

quality, but does not disclose an indication displayed on a screen of a mobile telephone to indicate signal quality. In an analogous art, Todd discloses a system and method to determine and display signal quality to user (Abstract) using such indication to assist a subscriber in locating a fixed access terminal so as to optimize the communications with a base station (col. 1, lines 18-23). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the mobile terminal device with multimodal interface as disclosed by Scahill with a signal quality indicator as disclosed by Todd in order for user to locate an access point and optimize the communication link with base station to achieve a benefit of better communication experience.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scahill in view of Oouchi (US 5,282,203).

Scahill discloses the limitations of claim 1 as applied above. Scahill does not teach determining congestion level by detecting volume of packet at an output buffer. Oouchi discloses determining congestion level at an output buffer and if cells in an output buffer memory exceeds a predetermined value then it constitute to a congestion state (col. 11, lines 27-38). Oouchi discloses that once the output buffer is congested, the excess cells are discarded and thereby the output buffer is secured and degradation of quality of service is prevented (col. 11, lines 27-38). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the mobile terminal device with multimodal interface as disclosed by Scahill with a buffer flow control disclosed by Oouchi such that once output buffer is determined to be congested, flow control actions can be taken and thereby prevent degradation of quality of service.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scahill in view of Minde et al. (US 6,157,830, hereinafter Minde).

Scahill discloses the limitations of claim 1 as applied above. Scahill does not teach using a checksum value to determine transmission loss parameter. In an analogous art, Minde discloses using a checksum value to allow a system to determine error rate and data can be classified as good or bad (col. 4, lines 30-41). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Scahill to provide a checksum value to data packets transmitted as disclosed by Minde to the data transmission link disclosed by Scahill such that bad data can be identified by determining the bits in a received packet and the checksum value and recovery of the error can be attempted when the bad data is determined.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL LAI whose telephone number is (571)270-1208. The examiner can normally be reached on Monday – Thursday, 9:00 a.m. – 4:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. L./
Examiner, Art Unit 2617

/Lester Kincaid/
Supervisory Patent Examiner, Art Unit 2617